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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/759,690

01/16/2004

Richard L. Black

P/10-658

8450

2352 7590 02/20/2009
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EXAMINER

KITOV, ZEEV V

ART UNIT

PAPER NUMBER

2836

MAIL DATE

DELIVERY MODE

02/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Supplemental
Notice of Allowability**

Application No.

10/759,690

Examiner

ZEEV KITOV

Applicant(s)

BLACK, RICHARD L.

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/17/08.
2. ☒ The allowed claim(s) is/are 1 - 9, 11 - 15.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

SUPPLEMENTAL ACTION

Examiner acknowledges a submission of the amendment and arguments filed on December 17, 2008. Claims 1, 9 and 15 are amended. Amendment and arguments have overcome rejections under 102 (b) and 103(a).

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Mr. L. Dujmich on January 21, 2009.

Please amend Claim 9, line 18 and further as follows:

“to develop a sensing voltage across the sensing resistor representative of the rate of change of voltage across the storage capacitor to turn on the protection transistor if the sensing voltage across the sensing resistor exceeds a predefined sensing voltage value; wherein the protection transistor is adapted to remove a control signal to the control electrode of the power switching transistor to turn off the power switching transistor if the rate of change of voltage with respect to time across the storage capacitor exceeds a first predefined rate of change value”.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

An amended independent Claim 1 discloses an over-current protection circuit for a power switching transistor wherein the power switching transistor has a control electrode and first and second main electrodes, the first main electrode coupled to a first terminal of a storage capacitor, a second terminal of the storage capacitor coupled to a reference potential such that the storage capacitor is in series with the first and second main electrodes, the circuit comprising: a sensing circuit, including a protection switch, for sensing the rate of change of voltage with respect to time across the storage capacitor wherein the rate of change of voltage is proportional to the magnitude of the current flowing through power switching transistor, and for controlling the protection switch to remove a control signal to the control electrode of the power switching transistor to turn off the power switching transistor if the rate of change exceeds a first predefined value.

The closest reference for the claim is Klausecker (DE 3,202,319), which discloses the circuit controlling the switching transistor including a sensing circuit (C, R, Th in Fig. 5), including a protection switch (Th in Fig. 5), and sensing the rate of change of voltage with respect to a time at the first main electrode (drain) of the power switching transistor. As to the rate of change of voltage being proportional to the magnitude of the current flowing through the first main electrode, this requirement is satisfied since the current value in the capacitor (C in Fig. 5) is proportional to the rate of change of the

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voltage across the capacitor and since the bottom plate of the capacitor has a fixed potential value, the voltage across the capacitor depends exclusively on the drain voltage of the power transistor. Therefore, the rate of change (dV/dt) is detected by the sensor circuit (C, R in Fig. 5). The sensing circuit controls the protection switch (transistor Th in Fig. 5) to remove a control signal to the control electrode (gate G in Fig. 5) of the power switching transistor when the rate of change of the drain voltage is such that it causes the capacitor current through the resistor (R in Fig. 5) and a zener diode (Z in Fig. 5) to get a sufficient value to switch on the transistor (Th in Fig. 5) thus removing the a control signal from the gate of the power transistor (LT in Fig. 5), when the rate of change and the current exceeds a first predefined value, i.e. minimal base current of the transistor (Th in Fig. 5) necessary to switch the transistor out from a cut-off regime.

However, the Klausecker circuit doe not include the storage capacitor connected in series with the first and the second main electrodes of the power switching transistor as claimed. Moreover the sensing circuit of Klausecker does not sense the rate of change of the voltage across the capacitor with respect to time but rather provides the current, i.e. a capacitor current indicating a change of the voltage across the power transistor but not across the capacitor.

Another independent Claim 15 recites the same limitations as Claim 1 and the amended independent Claim 9, presents the same limitations in slightly rephrased form.

Allowability resides, at least in part, in the above-described limitations, which has not been disclosed in the Prior Art in a search.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zeev Kitov whose telephone number is (571) 272-2052. The examiner can normally be reached on 8:30 – 5:00. If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272 – 2800, Ext. 36. The fax phone number for organization where this application or proceedings is assigned is (571) 273-8300 for all communications.

/Z. K./
Examiner, Art Unit 2836
2/17/2009

/Stephen W Jackson/
Primary Examiner, Art Unit 2836